

Simplify the ratio.

Remember, there are 3ft in 1 yd.

1. $\frac{2 \text{ in.}}{10 \text{ in.}}$

$\frac{1}{5}$

*

2. $\frac{8 \text{ ft}}{4 \text{ yd}}$

$\frac{8}{12} = \frac{2}{3}$

Solve the proportion.

3. $\frac{x}{8} = \frac{1}{2}$

$2x = 8$
 $x = 4$

4. $\frac{10}{3x} = \frac{5}{12}$

$15x = 120$
 $x = 8$

In Exercises 5–7, $\triangle DEF \sim \triangle RST$.

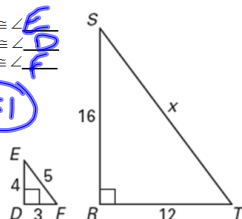
5. List all pairs of congruent angles.

$\angle S \cong \angle E$
 $\angle R \cong \angle D$
 $\angle T \cong \angle F$

6. Find the scale factor of $\triangle RST$ to $\triangle DEF$.

$12:3$ $4:1$

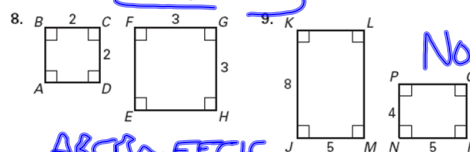
7. Find the value of x .



$\frac{16}{4} = \frac{x}{5}$

$\frac{x}{5} = \frac{16}{4}$
 $x = 20$

Determine whether the polygons are similar. If they are similar, write a similarity statement.



$ABCD \sim EFGH$

Are $\angle s \cong$? yes

Are sides in prop?

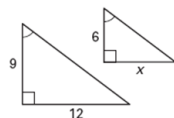
$\frac{2}{3} = \frac{2}{3} \checkmark$

$\frac{5}{4} \neq \frac{8}{5}$

No

Find the value of x.

10.

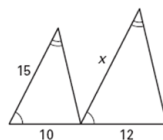


$$\frac{9}{6} = \frac{12}{x}$$

$$x = 8$$

$$\frac{9}{12} = \frac{6}{x}$$

11.



$$\frac{15}{10} = \frac{x}{12}$$

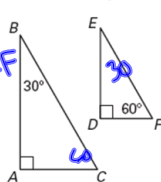
$$x = 18$$

$$\frac{10}{12} = \frac{15}{x}$$

a. YES
b. AA~

c. $\triangle ABC \sim \triangle DEF$

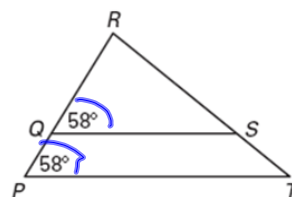
12.



AA~
SSS~
SAS~

Fill in missing \angle s

13.



a. YES

b. AA~

c. $\triangle RQS \sim \triangle RPT$

Share $\angle R$

14.

a. yes
b. SAS~
c. $\triangle JHK \sim \triangle JGL$

SAS~

$$\frac{6}{12} = \frac{8}{16}$$

$$\frac{1}{2} = \frac{1}{2}$$

15.

a. No
b. _____
c. $\triangle ABC \sim \triangle$ _____

sm md lg

$$\frac{15}{30} = \frac{15}{30} = \frac{23}{45} ?$$

$$.5 = .5 = .51$$

16.

a. yes
b. SAS~
c. $\triangle JKN \sim \triangle LKM$

sm lg

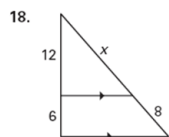
$$\frac{10}{16} = \frac{15}{24} \checkmark$$

17.

a. yes
b. SSS~
c. $\triangle ABC \sim \triangle FED$

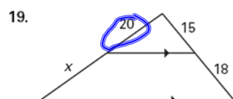
$$\frac{2}{4} = \frac{3}{6} = \frac{4}{8}$$

Find the value of x .



$$\frac{12}{6} = \frac{x}{8}$$

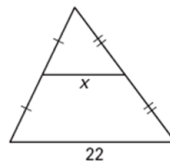
$$x = 16$$



$$\frac{20}{x} = \frac{15}{18}$$

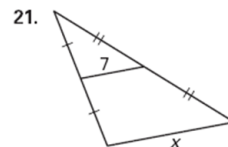
$$x = 24$$

20.



$$x = \frac{1}{2} 22$$

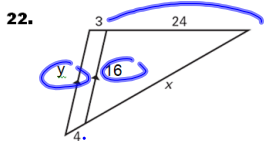
$$x = 11$$



$$7 = \frac{1}{2} x$$

$$x = 14$$

Find the value of the variable.



y or \parallel side
Be Careful!

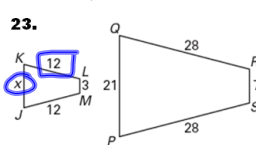
$$\frac{x}{4} = \frac{24}{3}$$

$$x = 32$$

$$\frac{16}{y} = \frac{24}{27}$$

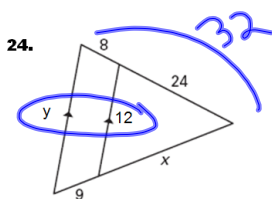
$$y = 18$$

JKLM ~ PQRS



$$\frac{x}{12} = \frac{21}{28}$$

$$x = 9$$

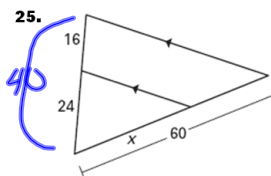


$$\frac{12}{y} = \frac{24}{32}$$

$$y = 16$$

$$\frac{x}{9} = \frac{24}{8}$$

$$x = 27$$



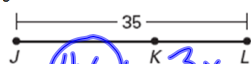
$$\frac{x}{60} = \frac{24}{40}$$

$$x = 36$$

26. The ratio of JK:KL is 4:3. What is the length of JK?

JK = 20

$$4 \times 5$$



$$4x + 3x = 35$$

$$7x = 35$$

$$x = 5$$

27. The green giant eats 12 cans of veggies every 2.5 hours. How many cans of veggies can he eat in 5 hours?

$$\frac{12}{2.5} = \frac{x}{5}$$

$$x = 24$$